Section 10

Written Description of the Routine Operations of the Facility

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A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

Raw logs are transported to the facility by trucks at a rate of about 10 trucks per day. The logs are stored at the facility. Logs are later transported as needed to a Storage Log Deck where a Cat 966D with a grappler sorts, arranges, and then moves the logs to a debarker. The debarker will remove the majority of bark from logs; the bark that is removed will be used as fuel for the Webb's Burner. The debarked logs exit from the debarker then roll onto an elevated table conveyor where they will be move from this table into a log cutter. The log cutter will saw the logs down to 5' 2" length. Undersized logs as well as short pieces from the log cutter will be fed to the chipper.

Only one operation will be conducted from this stage. The plant will either be producing wood shaving or wood pellet. During wood shaving production, the plant will not operate any processes identified by a unit number with a prefix C in the Process Flow Sheet. During wood pellet production, the plant will still load the sized logs into East and West log deck, but shaving box and the production of wood shavings will cease.

For shaving production, the sized logs are loaded into one of two shaver boxes. The wood shaver receives logs from the shaver box and proceeds to move the log back and forth perpendicular to a shaver blade underneath to produce wood shavings. The shavings are collected at the bottom of the shaver box and dropped onto a covered conveyor where a transfer fan will move them to a diverter valve. The conveying of all wood shavings are inside a covered conveyor, therefore, produce no emission. The diverter valve will send the shaving to two separate cyclones. The first cyclone will allow the shavings to enter a bulk storage bin before shipping out by trucks as bulk wood shaving.

The second cyclone will move the shavings onto a shaker screen where shavings smaller than 3" will be separated. Shavings that are larger than 3" will enter the drum drier where they will be dried from 40-80% moisture content to 8-12% by contact with hot flue gas supplied by the Webb's Burner. Shavings that are smaller than 3" are used as feed stock for the Webb's Burner. The Webb's Burner burns wood particles in a semi-suspension combustion and is maintained at approximately 1400 °F. Hot flue gas exiting the burner will mix with an intake ambient air to reduce temperature below 850 °F before entering the drier to prevent cook out of wood's resins. The flue gas laden with water vapor will exit at stack 1 cyclone. Dried shavings will then move to a bulk shaving storage before being bagged, palletized, and stored or shipped out by trucks as dried bagged wood shavings. Bagging process and storage for shavings will be done indoor.

Pellet production line will receive undersized logs and whole logs from the elevated table conveyor as well as short pieces from log cutter. These raw materials will be fed into chipper where they will be made into chips. All products exiting out from the chipper down stream will be transported within a covered conveyor to eliminate emissions. The chips are fed into the hammermill which turns them into sawdust 1/16" size. The hammermill operates by swinging rows of pivoted hammers along a shaft to pulverize the wood chips through a screen. The hammermill as well as its inlet and outlet are sealed to reduce emission. The sawdust is then moved into a cyclone using a transfer fan, after which it will enter the drum drier. Dried sawdust is separated out at the bottom of a cyclone and fed into the pellet mill surge bin. The pellet mill surge bin will feed the pellet mill with dried sawdust to make wood pellets. The pellet mill operates by extruding sawdust through a die (columnar form) to produce pellets. The pellets are fed into a pellet cooler where it comes in contact with ambient air to reduce pellet temperature. The pellet cooler is not expected to produce emissions since there is no sawdust after the pellets are formed. Cooled pellets are collected and bagged at the pellet bag line and either stored or shipped out by trucks as wood pellets. Bagging process and storage for pellets will be done indoor.